

REMARKS

This paper responds to the Office Action dated August 17, 2005. Claims 23, 24, 26-38, 40-50 and 52-56 remain pending in the Application, and stand rejected by the Examiner. The patent owner traverses the instant rejections.

Claim Rejections under 35 U.S.C. § 102(b)

Claims 23, 25, 26, 31-37, 39-41, 44, 46-49, 51, and 54-56 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Rompe (U.S. 5,903,856). The patent owner submits that these rejections completely fail to show correspondence between the cited Rompe reference and the language of the claims, and therefore fail to make out a prima facie rejection under 35 U.S.C. § 102(b). Moreover, the patent owner further submits that proper rejections under 35 U.S.C. § 102(b) could not be made because the rejected claims are each patentably distinct over the Rompe reference. The rejections under 35 U.S.C. § 102(b) are therefore traversed.

The Rompe reference discloses a device that uses a movement sensor to monitor and record the movement of materials during transport. In order to account for the reduced battery capacity at low temperatures, the Rompe reference discloses changing the operational state of the sensor device based on the measured loaded voltage (ULSENS) of the battery. More specifically, as the measured loaded battery voltage (ULSENS) falls below certain limiting voltages (U1-U5), the device transitions from "normal operation" mode to "reduced power operation" modes to "suspended power operation" mode, and ultimately to "ultimate sleep mode." Each of these successive operational modes requires less power from the battery. This operation is shown in Figures 4 and 5 of the Rompe reference and the corresponding written description at column 6, line 17 through column 7, line 22.

Significantly, the Rompe reference does not disclose any means for measuring battery capacity. Nor does the Rompe reference disclose any means for calculating the unloaded battery voltage from measurements of the loaded battery voltage. Moreover, the office action does not make any real attempt

to show how these or other specific claim limitations are anticipated by the disclosure in Rompe. Rather, the office action repeatedly cites to large sections of text in the Rompe reference that has no apparent relevance to the specific claim language that it allegedly anticipates. This type of cursory rejection is clearly improper under 37 C.F.R. § 1.104(b) *Completeness of Examiner's Action* which states "the examiner's action will be complete as to all matters..." See also, MPEP 2131.01 ("To anticipate a claim, the reference must teach every element of the claim.") Nonetheless, for completeness and in anticipation of appeal, the rejections of each of the independent claims are addressed separately below.

Rejection of Independent Claim 23:

Independent claim 23 is patentably distinct from the Rompe reference because there are numerous distinctions between the limitations of claim 23 and the disclosure in Rompe. First, Rompe does not disclose or suggest the claimed step of "determining a present unloaded battery voltage based on the present loaded battery voltage and one or more operating condition." The office action cited to the entire text from lines 8-55 of column 5 in the Rompe reference as disclosing this method step. This conclusion is incorrect. Figure 4 of the Rompe reference shows the no load battery voltage (U_{ladu}) and how it varies over time depending on temperature. Figure 4 of the Rompe reference also illustrates how a loaded battery voltage (U_{LSENS}) varies over time and temperature. However, there is absolutely no suggestion in Rompe that a present unloaded voltage may be calculated based on a measured loaded voltage and one or more operating condition. This claim step addresses the problem of how to determine what the unloaded battery voltage would be at a point in time when the battery is supplying power to a load. As claimed, the present unloaded battery voltage is determined based on the present unloaded battery voltage and one or more operating condition. Rompe does not address this issue.

Second, the Rompe reference does not disclose or suggest the claimed step of "determining a present battery capacity using the present unloaded battery voltage." In fact, Rompe does not disclose determining a battery capacity at all. Rather, the Rompe reference describes a method for changing the

power state (PS) of a battery based on the measured battery voltage under load (ULSENS). The office action cites to lines 17-28 as disclosing the claimed method step. However, the cited portions of the Rompe reference merely suggest that it is advantageous to adapt power consumption based on the available capacity or the measured voltages. There is no disclosure in Rompe regarding how available capacity might be calculated. Moreover, the Rompe reference only discloses a method for adapting power consumption from the measured voltage, not based on capacity.

Third, the Rompe reference does not disclose or suggest the claimed steps of "determining a loaded operational threshold voltage of the mobile device..." and then "determining an unloaded operational threshold voltage of the mobile device based on the loaded operational threshold voltage and the one or more operating condition." The Rompe reference discloses a number of limiting voltages (U1-U5), which are compared to the measured loaded battery voltage (Ulsens) to select a power state (PS) for the device. Therefore, at most, the limiting voltages (U1-U5) disclosed in Rompe might be comparable to the claimed "loaded operational threshold voltage." However, the Rompe reference does not suggest the step of determining an "unloaded operational threshold voltage" from these values.

Fourth, the Rompe reference does not disclose or suggest the claimed step of "determining an operational threshold capacity using the unloaded operational threshold voltage." As noted above, the Rompe reference does not disclose the determination of any battery capacity, nor does it disclose an "unloaded operational threshold voltage."

Fifth, the Rompe reference does not disclose or suggest the claimed step of "estimating the usable battery capacity based on the present battery capacity and the operational battery capacity." The Rompe reference does not disclose the determination of even a single battery capacity value, let alone the three types of battery capacity values recited in this claim limitation. Accordingly, the patent owner is unable to comprehend how the office action purports to find correspondence between this claim limitation and the teachings of the Rompe reference. Significantly, the office action does not even attempt to show

correspondence with anything in the Rompe specification, but rather makes a blanket and unexplained citation to both Figures 4 and 5. Neither Figure 4 nor 5 of Rompe have any apparent relevance to this claim limitation.

For at least the above reasons, the patent owner submits that independent claim 23 is patentably distinct from the Rompe reference, and is thus in condition for allowance. In addition, claims 24, and 26-36 each ultimately depend from claim 23, and are therefore also in condition for allowance.

Rejection of Independent Claim 37:

Independent claim 37 is patentably distinct from the Rompe reference because there are numerous distinctions between the limitations of the claim and the disclosure in Rompe. First, the Rompe reference does not disclose or suggest the claimed step of "determining an unloaded battery voltage by translating the measured battery voltage to take into account a load on the battery." As explained above, there is no suggestion in Rompe that an unloaded battery voltage may be determined based on a measured battery voltage under load.

Second, the Rompe reference does not teach or suggest the claimed step of "determining at least one shut off voltage by translating the shut off voltage to take into account the load on the battery." As explained above, the Rompe reference discloses a number of limiting voltages (U1-U5), which are compared to the measured loaded battery voltage (Ulsens) to select a power state (PS) for the device. There is no disclosure in Rompe that these limiting voltages (U1-U5) may be determined by translating a shut off voltage to take into account a load on the battery.

Third, the Rompe reference does not disclose the claimed steps of "determining a battery capacity using the unloaded battery voltage," "determining a shut off capacity using unloaded battery voltage," or "estimating an estimated capacity for the predetermined feature as a difference between the shut off capacity and the battery capacity." As noted above, the Rompe reference does not disclose the

determination of even a single battery capacity value, let alone the three types of battery capacity values recited in these claim limitations.

For at least these reasons, the patent owner submits that independent claim 37 is patentably distinct from the Rompe reference, and is thus in condition for allowance. In addition, claims 38, and 40-472 each ultimately depend from claim 37, and are therefore also in condition for allowance.

Rejection of Independent Claim 48:

Independent claim 48 is patentably distinct from the Rompe reference because there are numerous distinctions between the limitations of the claim and the disclosure in Rompe. First, the Rompe reference does not disclose or suggest "a battery capacity estimation program configured to (1) determine a present unloaded battery voltage based on the present loaded battery voltage and one or more operating conditions of the battery, and (2) determine a present battery capacity using the present unloaded battery voltage," as recited in claim 48. The office action merely cites, with no explanation, to Figure 4 of the Rompe reference as anticipating this claim limitation. Notably, Figure 4 of the Rompe reference does not even disclose a "program" or any operation performed by a "program." In addition, as explained above, Rompe does not disclose determining a present unloaded battery voltage based on a present loaded battery voltage and one or more operating conditions, or determining a present battery capacity from the unloaded battery voltage. Indeed, Rompe does not disclose determining a battery capacity at all.

Second, for the reasons stated above, Rompe does not disclose a "battery capacity estimation program being further configured to (1) determine a loaded operational threshold voltage of the mobile device... (2) determine an unloaded operational threshold voltage of the mobile device based on the loaded operational threshold voltage and the one or more operating parameters, and (3) determine an operational threshold capacity using the unloaded operational threshold voltage.

Third, Rompe does not disclose "the battery capacity estimation program being further configured to estimate a usable battery capacity based on the present battery capacity and the operational threshold capacity. Again, the Rompe reference does not disclose the determination of even a single battery capacity value, let alone the three types of battery capacities recited in this claim limitation.

For at least these reasons, the patent owner submits that independent claim 48 is patentably distinct from the Rompe reference, and is thus in condition for allowance. In addition, claims 49 and 52-56 each ultimately depend from claim 49, and are therefore also in condition for allowance.

Claim Rejections under 35 U.S.C. § 103(a)

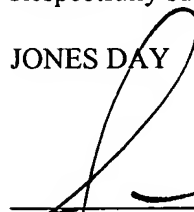
Claims 24, 38 and 50 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rompe in view of Branham (U.S. 4,297,639). Claims 27-30, 42, 43, 45, 52 and 53 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rompe in view of Weiss (U.S. 5,949,219). Each of these claims rejected under 35 U.S.C. § 103(a) are ultimately dependent on one of claims 23, 37 or 48, and are therefore patentable for at least the same reasons as stated above.

Conclusion

For the above reasons, Applicants respectfully submit that the pending claims are allowable. The Examiner is therefore respectfully requested to pass this case to issue.

Respectfully submitted,

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